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Amendment to the Claims:

1-2. (Cancelled)

3. (Previously Presented) A medical diagnostic imaging system for acquiring images of a patient, the imaging system being coupled to a hospital network which hospital network includes a hospital database which stores patient data including patient images, and a plurality of hospital computers, the imaging system
5 comprising:

a scanner which scans the patient using a selected examination protocol to generate image data;

a scanner control which controls the scanner, the scanner control being coupled to the scanner and the hospital network, the scanner control including:

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a display,

an applications database which is configurable by a user, and

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an interface which causes the display to display interactive user interface screens on the display, which user interface screens allow the user to configure the applications database, enter a patient's limiting parameters, select from a list of selectable examination protocols, and interactively control the scanner by activating icons and buttons displayed thereon;

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an examination protocol database which stores a plurality of examination protocols;

a computer programmed to:

25

choose a limited number of selectable examination protocols from among the plurality of examination protocols stored in the examination protocol database in response to receiving the patient's limiting parameters one of entered by the user into data entry fields displayed on the user interface screens, from the hospital database, or from a remote terminal, and displaying only the chosen examination protocols on the display from which the user selects the

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30 selected examination protocol such that the user is limited to selecting
only among chosen examination protocols chosen by the protocol
selection means.

4. (Cancelled)

5. (Previously Presented) The system as set forth in claim 3,
further including:

a post-processor which automatically commences post-processing
during data acquisition in accordance with types and formats of images commonly
5 generated with the selected examination protocol, or patient's limiting parameters
entered by the user into data entry fields to generate patient images.

6-8. (Cancelled)

9. (Previously Presented) The system as set forth in claim 3,
wherein the post-processing means includes:

a visualization configuration means for searching the hospital database
for visualization parameter preferences of a diagnosing radiologist and adjusting
5 level, zoom, slice and slab thickness, windowing, and other visualization parameters
in accordance with the diagnosing radiologist's preferences from the hospital
database.

10. (Cancelled)

11. (Currently Amended) The system as set forth in claim 3,
wherein the scanner ~~[[is]]includes~~ a CT scanner; and

the interface further includes:

a processor programmed to automatically ~~selects-select~~ optimization
5 parameters of an x-ray source of the CT scanner based on the selected examination
protocol to correct:

voltage supplied to the CT scanner x-ray source,

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amperage supplied to the CT scanner x-ray source, and
an x-ray dose supplied to the patient.

12. (Previously Presented) The system as set forth in claim 5,
wherein the computer is further programmed to:

search the hospital database for previous images of the patient and
automatically send the previous images to a diagnosing physician's hospital computer
5 without waiting for a transfer request from the physician.

13. (Previously Presented) The system as set forth in claim 5,
wherein the computer is further programmed to:

choose the selectable examination protocols from examination
protocols that were used for previous examinations and were previously stored in the
5 hospital database of the patient to generate the patient images.

14. (Previously Presented) The system as set forth in claim 12,
wherein the current images generated using the selected examination protocol are
generated by a different imaging modality than the previous images and wherein the
computer is further programmed to automatically register and display the previous
5 and current images at the physician's computer.

15. (Previously Presented) The system as set forth in claim 3,
wherein the computer is further programmed to:

merge image slices acquired by the scanner into slabs of selected
thickness which is interactively supplied by the user, displaying the slabs on the
5 display, and separating slabs selected by the operator back into their constituent
individual slices for display to the user on the display.

16. (Previously Presented) The system as set forth in claim 3,
wherein the computer is further programmed to:

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- collect the entered patient's limiting parameters, scanner running time, examination protocols used and other scan information for each scanned patient, and
- 5 generating a digital log book.

17. (Previously Presented) The system as set forth in claim 16, further including:

a remote processor programmed to remotely access and mine the digital log book to provide statistical analysis for optimizing scanner use.

18. (Previously Presented) The system as set forth in claim 3, further including:

- a remote, portable computer;
- wherein at the beginning of a scan procedure, the interface
- 5 automatically uploads the selected examination protocol from the remote portable computer.

19-21. (Cancelled)

22. (Currently Amended) A method of optimizing a throughput of a diagnostic image processing system, comprising the steps of:

- storing a plurality of the examination protocols in an application database in a hospital network;
- 5 entering the patient limiting parameters into the application database with a user input device prior to scanning the patient with a diagnostic imaging system;

- matching the patient limiting parameters with one or more optimal examination protocols stored in the application database;
- 10 displaying a list of the one or more optimal examination protocols for the scanning of the patient in response to the results of the matching on a display;
- displaying the list to the user to use in selecting the examination protocol to be used in the patient information on a display; and

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- performing a diagnostic imaging examination with the diagnostic
15 imaging system using the selected examination protocol.

23-24. (Cancelled)

25. (Previously Presented) The system as set forth in claim 3,
wherein the patient's limiting parameters include patient size, patient age, a
radiologist identification, radiologist preferences, and a nature and region of the
patient to be scanned.

26. (Previously Presented) A medical diagnostic imaging system
coupled to a hospital network, which hospital network interconnects a hospital archive
database, computers, computer displays, and a diagnostic scanner which scans a
patient using a selected examination protocol, the medical diagnostic imaging system
5 including:

a display device; and

a computer programmed to:

- select a limited number of examination protocols from a menu of
available protocols in accordance with entered patient size, patient age, radiologist
10 identification, radiologist preferences, and a nature and region of the patient to be
scanned, and generating an operator interactive display on the display device of the
limited number of examination protocols, such that a user selects the selected
examination protocol to be used to scan the patient from the limited number of display
examination protocols.

27. (Previously Presented) The medical diagnostic imaging
system as set forth in claim 26, wherein the computer is further programmed to:

- automatically, without user instructions, commence post-processing
during data acquisition in accordance with types and format of images most
5 commonly generated for the selected examination protocol.

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28. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the scanner is a CT scanner and the computer is further programmed to:

5 optimize a tube voltage and tube current for an x-ray source of the CT scanner in accordance with an operated selected protocol.

29. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to the display terminal of a diagnosing radiologist, automatically without waiting for a transfer request.

30. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

search the hospital archive database to determine if a current scan is a follow-up scan, determine parameters and examination protocols used in prior scans, and set the scanner to conduct the follow-up examination using the same parameters and examination protocols.

31. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level, zoom, slice and slab thicknesses, windowing, and other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist.

32. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

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merge groups of slice images into a smaller number of slab images, sequentially display the slab images, and display the individual slice images
5 corresponding to each slab image designated by a diagnosing radiologist.

33. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure.

34. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

for each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined
5 by the corresponding scanner.

35. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:
at the beginning of a scan procedure, automatically upload examination protocol information previously submitted from a remote computer or PDA.
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36. (Previously Presented) The medical diagnostic imaging system as set forth in claim 26, wherein the computer is further programmed to:

automatically commence post-processing during data acquisition in accordance with types and format of images most commonly generated for a selected
10 examination protocol; and

search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to a display terminal of a diagnosing radiologist, automatically without waiting for a transfer request; and

15 search the hospital archive database to determine if a current scan is a follow-up scan, determining parameters and examination protocols used in prior

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scans, and setting the scanner to conduct the follow-up examination using the same parameters and examination protocols; and

- 20 search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level, zoom, slice and slab thicknesses, windowing, and or other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist; and

generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure;

- 25 for each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined by the corresponding scanner; and

at the beginning of a scan procedure, automatically uploading examination protocol information previously submitted from a remote computer or PDA.